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EXAMINER

MEINECKE DIAZ, SUSANNA M

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/307,187

Applicant(s)

FRIEDLAND ET AL.

Examiner

Susanna M. Diaz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8,10-23 and 27-83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8,10-23 and 27-83 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This Final Office action is responsive to Applicant's amendment filed December 22, 2003.

Claims 1, 31, and 58 have been amended.

Claims 1-8, 10-23, and 27-83 are pending.

2. The previously pending rejection under 35 U.S.C. § 101 is withdrawn in response to Applicant's amendment of the claims.

3. Examiner notes Applicant's request for an interview; however, said request is denied at present. Applicant has already submitted a response that is pending before the Examiner and explains Applicant's position; therefore, an interview is not deemed to further prosecution at this point of examination.

***Response to Arguments***

4. Applicant's arguments filed December 22, 2003 have been fully considered but they are not persuasive.

Applicant argues that Fields does not teach that tasks are sorted by a rate per task, "wherein the rate per task characterizes the processing of at least one task" (Page 21 of Applicant's response). Applicant also challenges Examiner's assertion that such a limitation is inherent to the specified disclosure of Fields (Page 22 of Applicant's response). Examiner respectfully disagrees. By scheduling tasks, tasks are being

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sorted in a way that allows them to be scheduled according to understood scheduling rules and task relationships. For example, Fields recognizes different task types and task relations in order to better facilitate efficient scheduling of tasks that can be performed simultaneously or need to be performed in a particular order, etc. (col. 3, lines 26-57). Fields explicitly states that his Task Definition File contains various task information, including "the percentage of an employee's time that it takes to do a particular task (from 1% to 100%)" (col. 3, lines 29-31). Fields also optimizes a schedule of tasks "by taking into account the duration of a task" (col. 3, lines 43-44). Merriam Webster's Collegiate® Dictionary (10<sup>th</sup> ed)'s most relevant excerpt defines *rate* as "a fixed ratio between two things." The term *rate* as used in the claim language "wherein the rate per task characterizes the processing of at least one task" is indicative of a fixed ratio between the units processed in a task and a time period.

Applicant argues that the Examiner has failed to consider many of the words in the claim, such as "the at least one task including reviewing a pharmaceutical order, filling the pharmaceutical order, and verifying the pharmaceutical." (Page 22 of Applicant's response) The Examiner respectfully disagrees. The art rejection states:

However, it would be obvious to one of ordinary skill in the art to use the work producing system in a pharmacy since a pharmacy is nothing more than a specialized system (i.e. for distributing pharmaceuticals) which requires an efficient way to allocate resources and tasks. One of ordinary skill in the art would be motivated to use the system of Fields et al. in a pharmacy as it is an effective and helpful way to schedule employees in any type of resource/task environment.

"Distributing pharmaceuticals" is understood to refer to, at the very least, "filling the pharmaceutical order," as recited in the claimed invention.

Furthermore, Applicant argues that "any contention that Fields would be useful in a pharmacy is nothing more than an impermissible application of hindsight." (Page 22 of Applicant's response) In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The underlying methodology of the claimed invention is widely used for staff scheduling and work allocation, as evidenced by the teachings of Fields. Applicant's claimed invention does not yield any new or unexpected results in regard to the underlying scheduling algorithm. As submitted in the art rejection, scheduling pharmacy staff and allocating pharmacy-related work accordingly is merely a specific example of the scheduling and allocation methodology already set forth by Fields. This same line of reasoning applies to Applicant's argument regarding claim 18 (see page 26 of Applicant's response) as processing a number of Rx's in each task for a time period is merely an expected part of filling a prescription.

As claim 2, Applicant argues that "Fields neither teaches nor suggests redetermining the at least one queue as claimed, or designating the assigned resource

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as unavailable until a time when the resource expires, as further claimed.” (Page 23 of Applicant’s response) As explained in the art rejection, those tasks not completed by a worker in a given shift are reassigned after the worker’s shift is over (i.e., expired). Therefore, redetermination of work allocation to a queue must be performed when a previous shift ends. When tasks are assigned to workers during a scheduled period, these workers (i.e., the resources) then become unavailable to carry out further tasks during this scheduled period.

Regarding claim 5, Applicant argues that Fields’ “employee skill level and task relationship are not the equivalent of a team assignment constraint.” (Page 24 of Applicant’s response) Claim 5 does not further explain what a “team assignment constraint” is. Fields’ workers are working for a common employer; therefore, any constraint affecting the workers on an individual level affect (i.e., constrain) the team of workers as a whole.

As per claim 10, Applicant argues that “Fields neither teaches nor suggests normalizing.” The Examiner respectfully disagrees. As explained in the art rejection:

Fields et al. teach the rate of a resource to accomplish a task in the abstract and column 3, lines 26-34. This rate of an accomplishment is also the rate of availability of a resource. For example, if Mary can fill 60 prescription bottles in an hour, then Mary can complete a prescription bottle every minute and is available after a single minute. However, if Sally can fill 12 prescriptions in an hour, then Sally can complete a prescription bottle every five minutes and is available every five minutes. Therefore, Fields et al. does teach the rate of available resources by teaching the percent of time needed to accomplish a task. Fields et al. also teaches that this is an average rate of a group, or queue, as the shifts are optimized. In column 3, lines 40-45, and column 5, lines 8-34, Fields et al. teaches of an average rate

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of a group, or queue, since the shifts are optimized. As Fields et al. discloses the at least one queue by dividing a current task queue by an average rate of the available resources for each task in the current task queue, Fields et al. teaches all aspects of normalization. Therefore, Fields discloses normalization as normalization is the process of the at least one queue dividing a current task queue by an average rate of the available resources for each task in the current task queue.

Further regarding claim 10, Applicant argues that a “network of nodes” is not inherent to Fields. The Examiner respectfully submits that a “network of nodes” is so broad that any set of related workstations, tasks, employees, etc. constitutes a “network of nodes.” Fields’ invention schedules staff and allocates work based on a knowledge of data corresponding to related workstations, tasks, employees, etc.; therefore, at least any of these sets of items could be interpreted as a “network of nodes.”

Applicant challenges Examiner’s assertion that “it is an old and well known technique in the art to quantitatively define attributes through nominal, graphical and symbolic conventions. Pie charts, Gantt charts, and icons are commonly used to represent attributes.” (Page 25 of Applicant’s response) As stated in the art rejection, Fields teaches the use of a Gantt chart to display schedules of the staff (Fig. 3). A Gantt chart embodies “nominal, graphical and symbolic conventions” corresponding to attributes of the workers, who are part of a network of nodes; therefore, Fields itself addresses the limitation recited in claim 12.

Applicant argues that Fields does not teach “evaluating real-time operation data” (Page 25 of Applicant’s response). Fields assesses work assignments during every

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shift; therefore, the resource allocation model that provides the basis for such an assessment is performed when needed, i.e., on a "real-time" basis.

Applicant argues:

Moreover, in connection with claim 16, the Examiner states that "significance and performance criteria are old and well known techniques used in the art." It is unclear what the Examiner considers to be "significance and performance criteria" techniques, or how the Office Action's reasoning about evaluating results and determining improvements relates thereto. (Pages 25-26 of Applicant's response)

The Examiner merely reiterates language used by the Applicant in claim 16; therefore, Applicant's claim language is as broad and generalized as Examiner's corresponding statement. Furthermore, any resource allocation model includes "significance and performance criteria." For example, as taught by Fields, each worker's rate of performing a given task is significant to deciding to whom the given task will be allocated.

Applicant argues that the cited "projected total business demand distributed by hour" (from col. 7, lines 18-22 of Fields) does not adequately address the limitation that available resources are characterized based on "projected incoming volume by task and time." The Examiner respectfully submits that the assigned tasks are a direct response to total business demand distributed by the hour; therefore, total business demand distributed by hour reflects the assigned tasks distributed by hours, thereby reflecting the claimed "projected income volume by task and time."

As per claim 20, Applicant argues that the concept of Markov chains relates to an area of esoteric technology or specific knowledge of prior art and, therefore, Applicant



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requests a prior art reference supporting Examiner's assertion that it is old and well-known that "Markov Chains 'are a very well known type of queuing theory'" (Page 27 of Applicant's response). Applicant's assertion that Markov chains appear to relate to an "area of esoteric technology" is puzzling since Applicant's own specification states, "The work flow between tasks follows the behavior of, but is not limited to, a standard Markov Chain, incorporated herein by reference." (Page 38, lines 13-15 of Applicant's specification) By Applicant's own admission, Markov Chains are standard enough in the area of understanding workflow between tasks (which is a type of queuing) that Applicant not only refers to Markov Chains as "standard" when discussing this concept, but Applicant also incorporates by reference the understanding of Markov Chains as applied to following the behavior of workflow between tasks. Either Applicant is improperly incorporating essential subject matter by reference or Applicant's specification admits that Markov Chains are indeed well-known in the art of queuing (e.g., scheduling/allocating tasks in a workflow environment). If Applicant maintains that the understanding of Markov Chains is esoteric, then Applicant's own specification fails to provide the proper enablement for the use of Markov Chains for assigning available resources, as recited in claim 20. However, the Examiner agrees with Applicant's own admission in the specification, i.e., that Markov Chains are indeed well-known in the art of queuing (e.g., scheduling/allocating tasks in a workflow environment). Therefore, no further evidence need be provided since Applicant has already provided it.

Regarding claim 22, Applicant argues:

...To the contrary, it appears that Fields lacks, inter alia, a repeated steps of (a) sorting and/or (b) assigning. One

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advantage of this claimed invention that cannot be provided by Fields is that it permits dynamic re-scheduling on, e.g., an hour-to-hour basis, helpful e.g., in handling unexpected work volume, as pointed out in the specification. (Page 28 of Applicant's response)

Claim 22 merely recites that steps (a)-(b) are repeatedly performed until the end of a predetermined time period. There is no specification of how the predetermined time period is set nor how often repetition occurs. For example, updating an allocation of resources once at the end of a shift is sufficient to meet the limitation of claim 22. Furthermore, Fields tracks resources every 15 minutes on the schedule to determine if an item is available for a particular task (col. 3, lines 61-64), thereby indicating that Fields reevaluates the task assignments every 15 minutes.

As per claims 27 and 28, Applicant provides a blanket and unsupported challenge to the statement of Official Notice "that it is old and well-known in the art that tasks in a pharmacy commonly include vertical fills, baker fills, prepack fills,' etc." (Page 28 of Applicant's response) The Applicant is correct that the Examiner would have to provide references to support her use of Official Notice, but only if the Applicant makes a "seasonable challenge" regarding this use of Official Notice (MPEP 2144.03). Furthermore, a "challenge to judicial notice by Board must contain adequate information or argument so that on its face it creates reasonable doubt regarding circumstances justifying judicial notice" (*In re Boon*, 439 F.2d 724, 169 USPQ 231 (CCPA 1971)). The Applicant's general challenge without any supporting line of reasoning to the Examiner's use of Official Notice has not sufficiently created the reasonable doubt

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necessary to switch the burden back to the Examiner in regards to producing references to support the Official Notice.

Regarding claim 29, Applicant argues that "Fields fails to teach or suggest at least normalizing the queue by an average rate of the available resources for each task in the current task queue" (Page 28 of Applicant's response) Again, as explained in the art rejection:

Fields et al. teach the rate of a resource to accomplish a task in the abstract and column 3, lines 26-34. This rate of an accomplishment is also the rate of availability of a resource. For example, if Mary can fill 60 prescription bottles in an hour, then Mary can complete a prescription bottle every minute and is available after a single minute. However, if Sally can fill 12 prescriptions in an hour, then Sally can complete a prescription bottle every five minutes and is available every five minutes. Therefore, Fields et al. does teach the rate of available resources by teaching the percent of time needed to accomplish a task. Fields et al. also teaches that this is an average rate of a group, or queue, as the shifts are optimized. In column 3, lines 40-45, and column 5, lines 8-34, Fields et al. teaches of an average rate of a group, or queue, since the shifts are optimized. As Fields et al. discloses the at least one queue by dividing a current task queue by an average rate of the available resources for each task in the current task queue, Fields et al. teaches all aspects of normalization. Therefore, Fields discloses normalization as normalization is the process of the at least one queue dividing a current task queue by an average rate of the available resources for each task in the current task queue.

The Examiner asserts that a queue could comprise one person. Therefore, the average rate at which one worker performs a given task can be interpreted as the average rate of performing a task in the worker's queue.

In conclusion, Applicant's arguments are not persuasive.

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***Claim Objections***

5. Claim 7 is objected to because of the following informality:

Claim 7, line 2, insert --one-- before "constraint includes"

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8, 10-23, and 27-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields et al. (U.S. Patent No. 5,111,391).

As per claim 1, Fields et al. disclose a computer-implemented method of allocating resources including scheduling jobs from among a plurality of resources of a work-producing system, said method comprising the steps of:

(a) in a computer system, sorting, in a predetermined order, available resources by a number of tasks performable, and rate per task, and determining at least one queue responsive to said sorting, wherein the rate per task characterizes the processing of at least one task for a time period (col. 2, lines 12-35, and column 6, lines 51-65, the resources are sorted; see column 1, lines 32-45, and column 6, lines 43-46, resources were sorted according to pay rate and rate per task -- Implicit in assessing the

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“percentage of an employee’s time that it takes to do a particular task,” as recited in col. 1, lines 34-35, is an understanding of the unit(s) of work, i.e., tasks, that the employee completes in a certain time period; column 3, lines 26-57);

(b) assigning the available resources to at least one task subject to at least one task constraint (see column 1, lines 32-45, and column 2, lines 12-35, the resources are constrained).

As per claim 1, Fields et al. teach a system that can be used for any type of resource allocation. Fields et al. do not explicitly teach of the system comprising a pharmacy. However, it would be obvious to one of ordinary skill in the art to use the work producing system in a pharmacy since a pharmacy is nothing more than a specialized system (i.e. for distributing pharmaceuticals) which requires an efficient way to allocate resources and tasks. One of ordinary skill in the art would be motivated to use the system of Fields et al. in a pharmacy as it is an effective and helpful way to schedule employees in any type of resource/task environment.

As per claim 2, Fields et al. discloses a method of allocating resources according to claim 1, further comprising the step of redetermining the at least one queue after assignment of the available resources, and designating the assigned resource unavailable until a predetermined time when the assigned available resources expires (see column 5, lines 59-58, through column 6, lines 1-2, the tasks are in a task line and the arrangement of the queue is determined, the resource becomes available and is able to take another item from the task list when a shift is completed).

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As per claim 3, Fields et al. disclose a method of allocating resources according to claim 1, further comprising the step of incrementing time to time of a next event (see column 3, lines 58-64, column 4, lines 37-49, and column 5, lines 8-29, the time of the task is determined; the time is incremented to find the time of the next event).

As per claim 4, Fields et al. disclose a method of allocating resources according to claim 1, wherein the at least one task constraint includes maximum resource capacity, defined start and end times, and scheduled down time (see column 1, lines 32-45, and column 3, lines 9-15, task constraints include capacity and labor regulations, which define start and end times, as well as scheduled down time).

As per claim 5, Fields et al. disclose a method of allocating resources according to claim 1, wherein the at least one task constraint includes at least one team assignment constraint, and the available resources are assigned to the at least one task until the at least one team assignment constraint is satisfied (see column 1, lines 32-45, and column 2, lines 12-35, the task constrain includes a team assignment constraint such as the skill level of the employee or the relationship between the different tasks).

As per claim 6, Fields et al. disclose a method of allocating resources according to claim 1, wherein said assigning step (b), further comprises the steps of assigning the available resources to the at least one task for a maximum time

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of task, and removing the at least one task from a resource skill set (see column 1, lines 15-45, and column 3, lines 9-15, the maximum time of a task is determined and the task is removed from the resource when an employee maximum shift length occurs).

As per claim 7, Fields et al. disclose a method of allocating resources according to claim 1, wherein the at least constraint includes an end of shift constraint, and wherein the available resources are not assigned to the at least one task when the assignment violates the end of shift constraint (see column 3, lines 9-15, the end of shift constraint may be due to labor regulations as it could be the resource, or employee, reached their maximum shift length or their breacktime and therefore are not assigned another task).

As per claim 8, Fields et al. disclose a method of allocating resources according to claim 1, wherein the predetermined order comprises an ascending order (see column 5, lines 59-67, through column 6, lines 1-2, the resources are allocated in an ascending order, tasks that require a higher skill level are assigned to resources that have a higher skill level).

As per claim 10, Fields et al. disclose a method of allocating resources according to claim 1, wherein said sorting step (a) and said assigning step (b) are performed according to a resource allocation model, and wherein the resource allocation model includes entities with variable attributes having variable quantities that transform through at least one network of nodes (see column 6, lines 51-65, the resources, or

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employees, with attributes that have quantities that are transformed; for example, the number and skill level of the employees is updated during the shifts in the schedule).

As per claim 11, Fields et al. disclose a method of allocating resources according to claim 10, wherein each node of the at least one network of nodes includes an associated set of attributes and parameters (see column 6, lines 51-65, attributes and parameters are associated with the nodes).

As per claim 12, Fields et al. disclose a method of allocating resources according to claim 11. Fields et al. do teach a Gantt Chart which displays the attributes and the entities in a graphical formation (fig. 3). Fields teaches the use of a Gantt chart to display schedules of the staff (Fig. 3). A Gantt chart embodies "nominal, graphical and symbolic conventions" corresponding to attributes of the workers, who are part of a network of nodes.

As per claim 13, Fields et al. disclose a method of allocating resources according to claim 12, wherein the available resources include the attributes of the nodes, and the available resources undergo transformational processes arriving at least one arbitrary state or passing through a series of states that may become the attributes of the resources (see column 6, lines 51-68, through column 7, lines 1-7, the resources undergo a transformation by going through a state or states).



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As per claim 14, Fields et al. disclose a method of allocating resources according to claim 11, wherein the parameters are specified as at least one of inputs, outputs, capacities, operational processes, functional behaviors, movement logics, and other dynamic parameters (see column 6, lines 21-26, and 43-65, the parameters of the resources are specified).

As per claim 15, Fields et al. disclose a method of allocating resources according to claim 10, wherein the resource allocation model stores at least one of historical values, theoretical values, the attributes and constellations of the nodes, and wherein the resource allocation model provides multiple bases of comparison for monitoring, measuring, and evaluating real-time operational data and operational performance for management functions (see column 1, lines 9-15, and column 2, lines 12-35, the model stores and uses historical data which it can use to evaluate operational data and performance. It is inherent that the historical data would be kept and used for a purpose).

As per claim 16, Fields et al. disclose a method of allocating resources according to claim 10. Fields et al. teach a resource allocation model. However, Fields et al. do not explicitly teach a model that includes significance and performance criteria, associated tableaus and scenarios, and wherein abstract model elements are stored as at least one of the parameters and the attributes, and as at least one of functional, logical, graphical and symbolic forms. However, significance and performance criteria are old

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and well known techniques used in the art. Processes are constantly evaluated to evaluate current results and determine improvements. Therefore, it would be obvious to include significance and performance criteria as it would allow one to determine the efficiency of the scheduling. It would also be obvious to store parameters and attributes as at least one of functional, logical, graphical and symbolic forms as it would be an efficient way to display the parameters and the attributes. One would be motivated to include both the significance and performance criteria, as well as the stored format of the parameters as it would be very user-friendly.

As per claim 17, Fields et al. disclose a method of allocating resources according to claim 1, wherein the available resources are characterized by the following information:

- person identifier, person name, person type, shift assignment by day of week, task preference (see column 6, lines 49-65),
- shift name, shift start time, shift end time, lunch start, break 1 start, break 2 start (see column 4, lines 37-48, the shift times are set; see column 3, lines 9-15, the breaks and meal times are mandated by labor regulations),
- person type categories, eligible tasks (see column 6, lines 51-54, the skills characterize the employee),
- task name, rate per task, task capacity, task color for Gantt chart, flow percentages between tasks (see figure 3, column 1, lines 32-45, and column 6, lines 43-46, resources were sorted according to pay rate and rate per task; and task capacity),

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- projected incoming volume by task and time (see column 7, lines 18-22), and
- start of day queues in each task (see column 6, lines 21-27, the record contains the start times for each task and each resource).

As per claim 18, Fields et al. disclose a method of allocating resources according to claim 1, wherein said assigning step (b) assigns the available resources using at least one of the following outputs:

- people allocation: number of people assigned to each task for each time period (see column 6, lines 21-32, the Schedule Head Record contains each persons task at a particular time period),
- queue data: queue length for each task area by time period (see column 6, lines 51-68, through column 7, lines 1-7), and
- Gantt chart: person task assignment for each time period (see figure 3).

Fields et al. do not explicitly teach that the volume data is the number of RX's processed in each task for each time period. However, it would be obvious to one of ordinary skill that in order to schedule tasks the number of tasks must be known. One of ordinary skill in the art would be motivated to include the volume data as it explicitly discloses the volume of the tasks and allows a more accurate description of the number of tasks that the user must assign to resources.

As per claim 19, Fields et al. disclose a method of allocating resources according to claim 1, wherein said assigning step (b), further comprises the steps of assigning the available resources to a varying set of tasks having varying individual rates (see column 3, lines 37-6, lines 43-46, the resources are assigned to tasks with varying rates).

As per claim 20, Fields et al. disclose a method of allocating resources according to claim 1. Fields et al. did not explicitly teach the use of Markov Chains. However, one of ordinary skill in the art would teach the assigning step (b) further comprising the steps of assigning the available resources to the at least one task with a work flow between tasks following a Markov Chain. It would have been obvious to one of ordinary skill in the art to use Markov Chains as they are a very well known type of queuing theory. One of ordinary skill in the art would have been motivated to using Markov Chains as it would allow the user to easily picture the flow between tasks. One would be motivated to use Markov Chains as they are a reliable and accurate way to depict queuing theory.

As per claim 21, Fields et al. disclose a method of allocating resources according to claim 3, wherein the next event includes at least one of a resource or task that becoming subsequently available, incoming work, a queue reaching zero, and a minimum time in the task (see column 6, lines 26-32, 51-68, through column 7, lines 1-7, once the resource and task becomes available a new task is assigned knowing the task's minimum time).

As per claim 22, Fields et al. disclose a method of allocating resources according to claim 1, further comprising the step of repeatedly performing said steps (a) - (b) until the end of a predetermined time period is reached (see column 3, lines 46-67, the steps are repeated until closing time of each store location).

As per claim 23, Fields et al. disclose a method of allocating resources according to claim 1, further comprising the step performing the at least one task responsive to the resource assigned in said assigning step (b) (see column 2, lines 12-35, the resource completes the task assigned and then performs another task).

As per claims 27 and 28, Fields et al. do not explicitly teach of the system comprising a pharmacy. However, it would be obvious to one of ordinary skill in the art to use the work producing system in a pharmacy since a pharmacy is nothing more than a specialized system (i.e. for distributing pharmaceuticals) which requires an efficient way to allocate resources and tasks. One of ordinary skill in the art would be motivated to use the system of Fields et al. in a pharmacy as it is an effective and helpful way to schedule employees in any type of resource/task environment. Furthermore, Official Notice is taken that it is old and well-known in the art that tasks in a pharmacy commonly include vertical fills, baker fills, prepack fills, front fills, narcotics fills, control fills, insulin syringe fills, managed care review, Dr. call verification, eligibility verification, drug utilization review, mail handling, phone refill handling, phone prescription handling, safing, label generating, checking, packing, manifesting, and wandong. Therefore, for

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the reasons set forth above, it would also have been obvious to one of ordinary skill in the art at the time of Applicant's invention to adapt Fields' invention to allocate resources for performing the tasks of vertical fills, baker fills, prepack fills, front fills, narcotics fills, control fills, insulin syringe fills, managed care review, Dr. call verification, eligibility verification, drug utilization review, mail handling, phone refill handling, phone prescription handling, safing, label generating, checking, packing, manifesting, and wandring in order to reap the benefits of Fields' effective resource allocation method in a pharmaceutical environment, thereby making Fields' invention more versatile.

As per claim 29, Fields et al. teach the rate of a resource to accomplish a task in the abstract and column 3, lines 26-34. This rate of an accomplishment is also the rate of availability of a resource. For example, if Mary can fill 60 prescription bottles in an hour, then Mary can complete a prescription bottle ever minute and is available after a single minute. However, if Sally can fill 12 prescriptions in an hour, then Sally can complete a prescription bottle every five minutes and is available every five minutes. Therefore, Fields et al. does teach the rate of available resources by teaching the percent of time needed to accomplish a task. Fields et al. also teaches that this is an average rate of a group, or queue, as the shifts are optimized. In column 3, lines 40-45, and column 5, lines 8-34, Fields et al. teaches of an average rate of a group, or queue, since the shifts are optimized. As Fields et al. discloses the at least one queue by dividing a current task queue by an average rate of the available resources for each task in the current task queue, Fields et al. teaches all aspects of normalization. Therefore, Fields discloses normalization as normalization is the process of the at least

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one queue dividing a current task queue by an average rate of the available resources for each task in the current task queue.

[Claims 31-57]      Claims 31-57 recite limitations already addressed by the rejection of claims 1-8, 10-23, and 27-30 above; therefore, the same rejection applies.

[Claims 58-82]      Claims 58-82 recite limitations already addressed by the rejection of claims 1-8, 10-23, and 27-30 above; therefore, the same rejection applies.

### ***Conclusion***

8.      The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Yuri et al. (U.S. Patent No. 6,249,715) -- Discloses a method for optimizing work distribution in an assembly line environment.

Haughton et al. (U.S. Patent No. 6,282,531) -- Discloses a system for managing workflow in multiple dimensions and contexts.

Hebron et al. (U.S. Patent No. 6,256,967) -- Discloses an integrated automated drug dispensing method.

Charhut et al. (U.S. Patent No. 5,208,762) -- Discloses an automated prescription vial filling system.

Parks ("Patients and Pharmacists Benefit From Rx Automation") -- Discloses the use of automated pharmacy management systems.

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"Bergen Brunswig Corp - 1995 Annual Report" -- Discloses a timeline of advances in pharmacy automation.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susanna M. Diaz whose telephone number is (703) 305-1337. The examiner can normally be reached on Monday-Friday, 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Receptionist whose telephone number is (703)308-1113.



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Any response to this action should be mailed to:

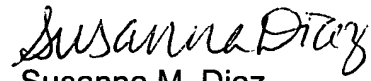
**Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450**

or faxed to:

**(703)305-7687** [Official communications; including  
After Final communications labeled  
"Box AF"]

**(703)746-7048** [Informal/Draft communications, labeled  
"PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 22202, 7<sup>th</sup> floor receptionist.

  
Susanna M. Diaz  
Primary Examiner  
Art Unit 3623  
March 19, 2004